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INTEGRATED CROP MANAGEMENT

Scout fields now for soybean aphids

Soybean aphid populations are increasing in some fields in northeastern and central Iowa. Brian Lang, ISU field specialist-crops, reports that soybean aphids have increased dramatically during the past 2 weeks near Decorah. He found the first aphids on June 5 in soybean planted May 13. To give you a perspective of the increasing population, in his research plots, the average aphid density per plant for the past 4 weeks was 10 (June 16), 100 (June 22), 315 (June 30), and 640 (July 6). For soybean that was protected with a seed treatment, aphid populations on July 6 averaged 32 aphids per plant, or 95 percent less than the untreated plants. Palle Pedersen, ISU extension agronomist, also has found aphids to be abundant on some plants near Ames.



A population of 125 soybean aphids on the underside of two soybean leaflets.

[Enlarge](#) [1]



Soybean aphids.

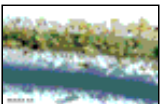
[Enlarge](#) [2]

Brian notes that "winged aphid activity is impressive on some individual plants with more than 2,000 aphids, i.e., as many as 75 winged aphids on one plant." Thus, aphids will be rapidly moving to other plants across the field or into other fields. He also notes that plants with more than 600 aphids in the R1 stage soybean are looking "a little stressed. However, plants with only 100 aphids per plant look perfectly normal." In contrast, two other research sites Brian has near Calmar and Ossian, planted the last week of May, averaged only three aphids per plant on July 2.

Scouting methods for the soybean aphid in Iowa have not been investigated. Therefore, procedures we use could have flaws. However, scouting must be conducted to determine aphid presence and abundance. In pest management, scouting information is of little use without having appropriate decision guidelines. Therefore, the following guidelines are based on the limited experience of entomologists in the Midwest regarding this insect.

- Scouting for aphids should begin the last week of June. Scout five locations per 20 acres. At each site, five plants can be picked, and the leaves turned over and searched for aphids. Field observations should be made weekly. If aphids are present, rough estimates of aphid numbers per plant should be attempted (i.e., dozen, hundred, several hundred, more than 1,000). Avoid treating soybean aphids when small populations are first found in the field.
- Lady beetles, green lacewings, and other beneficial insects eat aphids in Iowa soybean fields beginning in mid-June. These predators probably will be most helpful in fields with populations that have not reached damaging levels and they could help hold populations down. Unfortunately, observations from 2001 suggest that these predators will not be able to significantly reduce the aphid population once it reaches damaging levels.
- Begin intensive scouting for soybean aphids, especially in northeastern Iowa, in early July. Check the upper two or three trifoliate leaves for aphids. Aphids are most likely to concentrate in the plant terminal. A major concern is estimating aphid population size and determining a threshold or treatment level. The best that can be done now, because of limited research, is to develop management guidelines based on subjective experience from the field.
- Take special note of winged aphids or "broad-shouldered" nymphs that are beginning to develop wings. Nymphs with squared off shoulders are nearing the adult stage. If most of the aphids are winged or nearing this stage, they will leave the plant, and maybe the field, and an insecticide may not be needed because the population will rapidly decline.
- Feeding effects of the aphids could worsen if plants are under stress from dry soil conditions.
- Soybean aphids seem to damage late-planted soybean more than early-planted soybean. Closely scout late emerging soybean fields.
- Consider using an insecticide to control soybean aphid in July when five criteria in the field are met:
 1. soybean plants are in the R1 stage (first bloom) or later
 2. aphid populations are heavy and cover the upper trifoliate leaf on a majority of plants
 3. lower leaves are not yet covered with aphid honeydew or turning black from sooty mold
 4. infested plants do not yet seem stunted, and
 5. a majority of aphids are not winged or developing wings.

If plants are covered with honeydew or sooty mold and look stunted, an insecticide may still be of value but the optimum time for treatment would have been before these conditions became noticeable.



Winged soybean aphids can easily fly to nearby plants or other soybean fields..

[Enlarge](#) [3]

Another question is what to do in fields that have low- or moderate-sized populations of aphids. There are no clear answers but the fields should be scouted through mid-August. Heavy rains and beneficial insects may reduce low-to-moderate populations slightly, but insecticides may be the only option in achieving a substantial reduction if the population

reaches the conditions stated on page 114.

If an insecticide is sprayed, an unsprayed test strip should be left in the field to compare and evaluate against the sprayed sections. The unsprayed test strip is needed to effectively compare the real value of the insecticide treatment and to determine its performance. Data from Iowa and neighboring states show that not all insecticides provide equal levels of control. The soybean aphid seems to rebound from some insecticides and a high level (99 percent) of control is desired. Data on insecticide performance are available in the Proceedings of the 13th Annual Integrated Crop Management Conference, Iowa State University. High water volume and high pressure also have been suggested as ways to improve soybean aphid control, especially in fields with a dense plant canopy. Several insecticides (Table 1) are labeled for soybean aphid (or Chinese aphid on some labels).

Table 1. Insecticides and product rate per acre labeled for soybean aphids in soybean. Read and follow all label directions.

Product	Rate/Acre	Preharvest Interval (days)
Asana XL*	5.8-9.6 ounces	21
Baythroid 2E*	2.8 ounces	45
Furadan 4F*	0.25-0.5 pint	21
Lorsban 4E*	1-2 pints	28
Mustang Max*	2.8-4.0 ounces	21
PennCap-M*	1-3 pints	20
Pounce 3.2EC*	4 ounces	60
Warrior*	1.92-3.20 ounces	45

*Restricted-use insecticide.

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